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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/635,956	08/10/2000	Timothy C. Loose	47079-00058	6262

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JENKENS & GILCHRIST, P.C.  
225 WEST WASHINGTON  
SUITE 2600  
CHICAGO, IL 60606

EXAMINER
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MCCULLOCH JR, WILLIAM H

ART UNIT	PAPER NUMBER
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3714

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/635,956

Applicant(s)

LOOSE, TIMOTHY C.

Examiner

William H. McCulloch Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5,7-23 and 27-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-23 and 27-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This action is in response to amendments received 7/25/2005. The application has claims 1-5, 7-23, and 27-41 pending, with claims 1, 9, 10, 12, 20, 23, 28, and 29 currently amended and claims 30-41 newly added.
2. As a preliminary matter, currently amended claim 23 appears to be incorrectly labeled "Previously Presented" on applicant's claims submitted 7/25/2005. However, the appropriate underlining has been supplied in the claim so as to indicate amended subject matter. Additionally, applicant's Remarks indicate that claim 23 is currently amended (see Remarks, p. 10). As such, the examiner will treat claim 23 as currently amended with the assumption that the label "Previously Presented" is a typographical error, and that applicant intended to label the claim status "Currently Amended". It is requested that applicant clarify the status of the claims in response to this action.

### ***Claim Interpretation***

3. The following interpretation was set forth in the previous office action and is repeated herein for convenience: "Configuration data" is interpreted to be data needed to correctly control the slot machine reels. Applicant's definition of "configuration data" from page 5 of the specification corresponds to the definition of "device driver".

*Microcomputers* (Sandon, IBM Microelectronics Division, 1999, <http://www.mrw.interscience.wiley.com/eeee/63/1663/W.1663-4.html>), which defines device drivers as:

#### **Device Drivers**

Among the services that an operating system provides to an application program is I/O processing. When an application specifies that a particular

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data stream is to be written to the display, or that a new file should be created on the hard disk, or the next keystroke should be read in, operating system code is executed to perform the requested function.

The request from the application is abstract, in the sense that it is made independent of which particular device or even class of device will be involved in satisfying the request. The I/O manager has knowledge of different classes of devices, but does not have specific information on how to control every possible I/O device that might be attached to the microcomputer.

The device driver is the piece of code that does have device specific information. When a particular device is installed, the corresponding device driver software is installed as well. When the I/O manager gets a request to perform a particular function on a particular type of device, it passes the request to the appropriate device driver, which turns the request into the correct control sequence for that device.

As is readily apparent, the configuration data disclosed by Applicant is the device driver for driving the slot machine reels. It is a device specific piece of code that contains information concerning physical parameters (i.e., number of symbols on a reel, number of steps in the motor, how to drive the motor) that allows the central processing unit of the game to issue high level commands (i.e., abstract requests independent of the which particular device or class of devices involved in satisfying the request) to the I/O manager (i.e., local controller) which turns the request into the correct control sequence for that device.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5, 7-23, and 27-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathis et al. (US Patent Number 5,380,008) in view of Sakamoto (US Patent Number 6,315,663).

**Claims 1, 9, 20, 29:** Mathis teaches a slot machine (10) with a central processing unit (52) for issuing high level commands for operating the slot machine in response to a wager. There is a reel mechanism including a motor (62), a symbol-bearing reel (22), and a reel driver (58a). The motor includes a rotatable shaft and the reel is mounted to the shaft. (Fig 4) The reel driver includes a local microcontroller (58a) distinct from and coupled to the central processing unit (52). The reel driver is coupled to the motor to cause the motor to rotate the reel. The local microcontroller performs low-level reel driver operations independent from the central processing unit. (Col 10, 55-65) Mathis teaches that the central processing unit sends configuration data to the local microcontroller for configuring the local microcontroller to a reel spinning game conducted with the slot machine. Col 10, 48-49 teaches processing the starting position of the reel and retransmitting that information to the local microprocessor. This data is necessary to correctly control the reels and is "configuration data".

Furthermore, Mathis teaches that one of the advantages of the described system is that it permits a system peripheral to be redesigned to meet a new requirement rather than redesigning the entire primary microprocessor. (Col 11,

18-20) Such "plug and play" capability inherently requires that the configuration data be downloaded from the central processing unit to the local microprocessor.

The local microprocessor is an I/O manager. It is extremely well known in the art to download configuration data in the form of device drivers to I/O controllers to allow device independence. In fact, this is the only way to achieve device independence. If the CPU does not download the configuration data to the local microprocessor (I/O manager), then switching the peripheral device (i.e., reel) requires the switching of the local microprocessor. Mathis teaches device independence (Col 11, 18-20), therefore, Mathis must inherently teach downloading configuration data from the CPU to the local microprocessor.

Thus Mathis both explicitly teaches transmitting configuration data (reel initial position) to the local microcontrollers and inherently teaches such transmission in order to support device independence.

Mathis teaches configuring a slot machine to a reel spinning game conducted with the machine. There is a physical symbol-bearing reel (22), a reel controller (58a) for performing low-level operations related to movement of said reel; and a central processing unit for issuing high-level commands to said reel controller related to the movement of said reel. Mathis does not explicitly teach that the high-level commands include a command for informing said reel controller of at least one of an acceleration profile for accelerating said reel and a deceleration profile for decelerating said reel. Sakamoto teaches an acceleration or deceleration profile for accelerating and decelerating the reels. (Col 12, 40-

61) Having reels accelerate and decelerate at varying speeds adds visual interest to the games. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Mathis in view of Sakamoto to have the high-level commands include a command for informing said reel controller of at least one of an acceleration profile for accelerating said reel and a deceleration profile for decelerating said reel in order to add visual interest to the games.

**Claim 2:** Mathis teaches that in response to actuation by a player, the reel is rotated and stopped to place the symbols of said reel in visual association with one or more pay lines (See at least figure 6 and the abstract).

**Claims 3, 11:** Mathis teaches that low-level reel driver operations include monitoring said reel and at least partially controlling its position. (Col 10, 55-65)

**Claim 4:** The local microcontroller monitors said reel by sampling its state multiple times per second in real time (i.e., counting the number of pulses received), and responds with control commands for controlling the position of said reel. (Col 10, 55-65)

**Claim 5:** The local microcontroller is serially connected to said central processing unit. (Fig 2)

**Claims 7, 10:** The central processing unit issues high level commands to said local microcontroller, said high-level commands including a start spin command for spinning said reel and a stop command for stopping said reel at a specified stop position. (Col 10, 55-65)

**Claims 8, 13:** The reel includes an encoder for indicating the position of said reel, and wherein said reel driver includes an optical detector (64) for reading said encoder, said local microcontroller being coupled to said optical detector to monitor the position of said reel. (Col 10, 29-36 & Fig 4)

**Claim 12:** Claim 12 is a combination of claims 1, 3 and 7.

**Claims 14, 16, 18, 21:** The configuration data includes at least one of the type of slot machine, a number of symbols on said reel, how to drive said motor, and a number of steps in said motor if said motor is a stepper motor. Mathis teaches that the position detector detects the position of the reel and transmits that information to the CPU where it is processed and retransmitted to the local microcontroller as the initial position. (Col 10, 45-50) The local microcontroller uses this information to determine when to stop the reel to display the chosen symbol. This can only be done if the local microprocessor also knows the number of symbols on the reel. In order to support the device independence feature disclosed by Mathis (Col 11, 18-20), this information must be downloaded from the CPU to the local microcontroller.

**Claim 23:** Mathis teaches configuring a slot machine to a reel spinning game conducted with the machine including a physical symbol-bearing reel (22) including an encoder (64) for indicating a position of said reel. Mathis teaches providing a reel controller (58a) for performing low-level operations related to movement of said reel and a central processing unit (52) for issuing high-level commands to said reel controller related to the movement of said reel. Mathis



teaches device independence. (Col 11, 18-20) This means that Mathis inherently teaches sending a command from said central processing unit to said reel controller to determine a type of said encoder; determining the type of said encoder with said reel controller; sending configuration data from said central processing unit to said reel controller to configure said reel controller to the reel spinning game; and using said reel controller to compare the determined type of said encoder with said configuration data. If Mathis does not perform these steps, Mathis cannot possibly provide device independence.

**Claim 28:** Mathis teaches providing a physical symbol-bearing reel (22) including an encoder (64) for indicating a position of said reel; providing a reel controller (58a) for performing low-level operations related to movement of said reel; providing a central processing unit (52) for issuing high-level commands to said reel controller related to the movement of said reel; sending a command from said central processing unit to said reel controller to determine a type of said encoder; and determining the type of said encoder with said reel controller, which includes causing a motor to spin said reel and detecting a physical characteristic of said encoder. (Col 10, 20-45) Mathis teaches that this finds the initial position of the reel. The position of the reel is a physical characteristic of the encoder.

**Claims 30, 32-35, 38-41:** In addition to the above explanations, Sakamoto teaches that the reels can be gradually regulated by the pulse duration and the count criterion to reduce or increase in the rotary speed, thereby causing the

reels to be accelerated for a first predetermined time, then to be rotated at a constant speed for a second predetermined time, and to be decelerated for a third predetermined time to be finally stopped (see at least 17:24-34).

**Claims 31, 36, 37:** Sakamoto teaches that the game machine reels are axially aligned and independently rotatable about an axis in first and second directions. Sakamoto also teaches that the symbols are shifted in the first and second directions within a predetermined waiting time to change the symbol combination. See at least the abstract.

**Claims 15, 17, 19, 22, 23, 27:** Mathis teaches the invention substantially as described but does not specifically teach that in response to receiving said configuration data, said local microcontroller processes said configuration data and reports a status of configuration of said local microcontroller back to said central processing unit. Error detection and reporting is extremely well known to the art. If an error occurs in a slot machine and is not detected, vast sums may be wrongly paid to players. Equally bad, the players may not receive winnings to which they are entitled. This is prohibited by law. Error detection and reporting are used to ensure that no such errors occur. Mathis must either inherently carry out error detection and reporting, or it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Mathis to carry out error detection and reporting in order to prevent under- or over-payment and to comply with the law.

***Response to Arguments***

6. Applicant's arguments filed 7/25/2005 have been fully considered but they are not persuasive.

Regarding the claim interpretation related to device drivers, applicant "strongly disagrees" that applicant's configuration data corresponds to the definition of a device driver. In supporting this assertion, applicant appears to rely upon a decision rendered by the Board of Patent Appeals and Interferences ("Board") relating to the disclosure of McGlone (U.S. 6,394,900). However, no mention of the McGlone reference appears in the previous office action. Thus, applicant has failed to provide analysis or any probative reason as to why the disclosure of McGlone and the analysis set forth by the Board is applicable to the teachings of the cited references. As such, applicant is directed to the *Microcomputers* reference above.

Applicant appears to contest the device independence taught by Mathis. The previous office action asserted that "Mathis teaches device independence (Col 11, 18-20), [and] therefore, Mathis must inherently teach downloading configuration data from the CPU to the local microprocessor" (Office Action 4/25/2005, p. 4). Applicant alleges that Mathis teaches "partial device independence, which is not really independence at all" (Remarks, p. 12). It is the position of the examiner that Mathis does in fact teach the advantage of device independence. The cited portion of Mathis conveys to one of ordinary skill in the art, the advantages and disadvantages of two embodiments: a first embodiment using a single microcomputer to control multiple functions of the gaming device and a second embodiment using multiple individual, modular microcomputers to

accomplish specific functions within the gaming device. Mathis states, "It also permits a system peripheral to be redesigned to meet a new requirement rather than a redesign of the entire primary microprocessor as is conventional" (11:18-20). In the cited portion, "It" refers to the preferred embodiment, which is clear since the subject of the proceeding sentence is "the preferred embodiment". Therefore, Mathis teaches that the preferred embodiment, which is the modular embodiment employing multiple microprocessors, is favorable because of the independence inherent in its design.

Additionally, Mathis' reference to a "redesign of the entire primary microprocessor" is directed toward replacing a single, general microprocessor (from the single-processor embodiment described above). The use of the word "entire redesign" does not necessarily indicate that Mathis contemplates a contrasting 'partial redesign'. It is the position of the examiner that Mathis' teaching could have been stated, "rather than a redesign of the primary microprocessor" (note the omission of *entire*). Those of ordinary skill in the art at the time of invention were aware that modifying a relatively simple peripheral, such as the reel assembly or reel motor controllers taught by Mathis, was generally far less costly than redesigning a sophisticated microprocessor. Thus, the examiner's position is supported by Mathis, at least because Mathis refers to redesigning a system peripheral in lieu of redesigning a microprocessor.

Applicants remaining arguments are directed toward claims as amended and are answered in the rejection.

***Citation of Pertinent Prior Art***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. 5,251,898 to Dickenson et al. discloses a gaming apparatus with bi-directional reels. U.S. 6,375,570 to Poole shows a gaming device displaying an exhibition for replacing video reels.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. McCulloch Jr. whose telephone number is (571) 272-2818. The examiner can normally be reached on M-F 8:30-4:30.

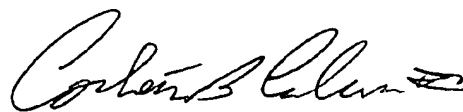
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Olszewski can be reached on (571) 272-6788. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

William H. McCulloch Jr.  
Examiner  
Art Unit 3714  
6/26/2006

wm



**CORBETT B. COBURN**  
**PRIMARY EXAMINER**